Off-Site Source Recovery Project

OSR

LOS ALAMOS NATIONAL LABORATORY

Off-Site Source Recovery

OSR Project Contact Information

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Introduction

Consistent with the mission of Los Alamos National Laboratory (LANL) to reduce global nuclear danger and secure nuclear materials on behalf of the US Department of Energy (DOE), the Off-Site Source Recovery (OSR) Project recovers and manages unwanted radioactive sealed sources for which DOE is ultimately responsible under Public Law 99-240 (The Low-Level Radioactive Waste Policy Amendments Act of 1985). The goal of the project is to reduce to zero the backlog of unwanted radioactive sealed sources in the US for which no disposal options now exist. Achieving this goal will reduce the potential risk to public health, safety, and the environment that radioactive material poses, and will ensure that such materials are not diverted for improper use.

The OSR Project at LANL is managed from the Risk Reduction and Environmental Stewardship Division (RRES-DO) / Science Applications Group. The project recovers and manages unwanted radioactive sealed sources and other radioactive material from the public and private sectors that:

- present a risk to public health and safety
- are no longer controlled by a Nuclear Regulatory Commission (NRC) or Agreement State licensee
- are a DOE responsibility under Public Law 99-240
- are DOE-owned

The project allows the DOE to aggressively recover and manage a wide variety of the estimated 18,000 sealed sources and sealed-source devices that are now, or will become excess and unwanted in the next decade.

Operational Objectives of the OSR Project

The project has these objectives:

- recover and manage more sources annually to reduce potential risk
- address the long-term storage and final disposition issues associated with unwanted, high-energy radioactive sources
- broaden the scope of source types currently accepted for management
- decrease the cost to the DOE to recover and manage sources

Accomplishments

In cooperation with the NRC and Agreement States, between September 1997 and December 2001, the project recovered and placed in interim storage more than 3,000 unwanted sealed sources containing Am-241 and Pu-238. LANL's OSR Project works with government and private industry to achieve safe, cost-effective recovery of unwanted sources. It reduces the risk by moving radioactive material from a low-security environment to a secure DOE site. The OSR Project continues to support DOE–Albuquerque Waste Management Division in planning for both recycle and final disposal of radioactive materials recovered by the project.

Website: http://osrp.lanl.gov

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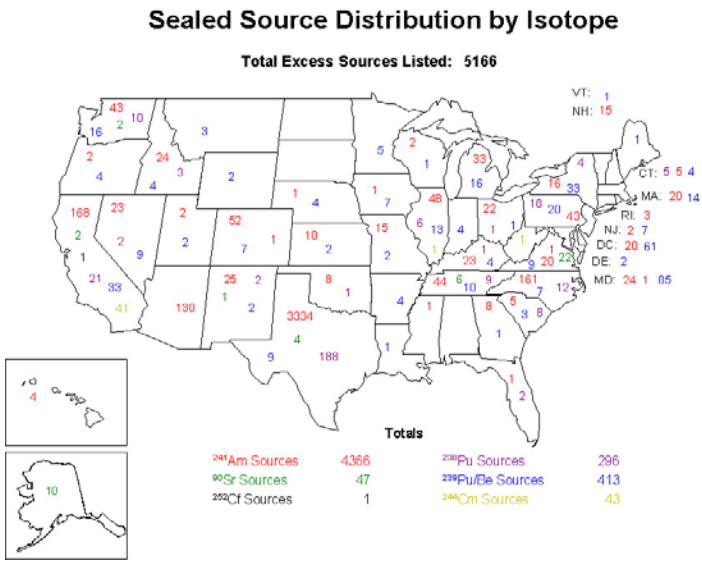
Comprehensive Sealed Source Database

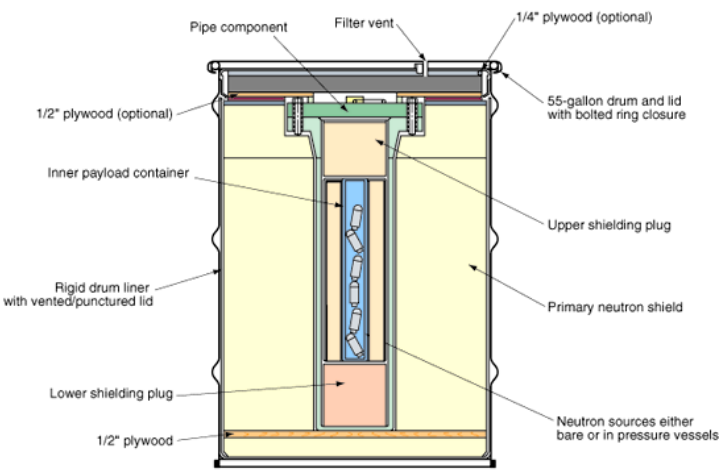
The OSR Project has developed a secure database to identify and track excess, unwanted radioactive sealed sources for which disposal options do not now exist. This database is used as a life-cycle management tool to track sealed sources from the time they are first identified as excess material; through their potential reuse and recycle, recovery, and storage; and ultimately to their final disposal. Source owners and agencies with unwanted sealed sources exceeding the limits for current disposal options are encouraged to log onto the OSR Project website and register their sources on this secure confidential database (http://osrp.lanl.gov).



Multifunctional Containers

Containers have been developed for transportation and storage of radioactive sealed sources that meet US Department of Transportation (DOT) Type 7A requirements, as well as the packaging requirements, waste acceptance criteria, and transportation codes for the Waste Isolation Pilot Plant (WIPP).

S100 Pipe Overpack Multifunction Container (US DOT Type-A)
Designed specifically to handle consolidated shipment, storage, and eventual disposal of neutron sources.



The containers:

- provide a packaging standard for transportation, storage, and disposal
- allow consolidation to minimize volumes for transport, storage, and disposal
- address the container-shielding needs of a wide variety of sealed sources and devices
- reduce the operational radiation dose to workers at every stage of operation

Special Form Capsule

The OSR Project has developed a special form capsule that can be assembled in the field. The design, a modification of a design patented by RSO, Inc., in Laurel, MD, has been fully tested, certified, and approved for use as a DOT special form container. The capsules will be used to overpack leaking or suspect sources to facilitate Type A shipments.

Special Form Capsules

Future Plans

In cooperation with the NRC and state radioactive materials regulatory authorities, the OSR Project prioritizes acceptance of sources based on potential risk. During federal fiscal year 2002 (FY02), the OSR Project plans to recover sources from as many as 60 sites, each holding fewer than 10 sources. However, based on post-9/11 analysis, the NRC has determined that all excess sources currently on the database pose a potential security risk from terrorism. Therefore, some redirection will occur in FY02 to address this threat.

Although LANL has authorizations in place to permit recovery of most excess sealed sources, one class of sources has not yet been authorized. Sealed sources containing Pu-239 require special storage arrangements at LANL because of their nuclear material control requirements. DOE has requested that LANL arrange to accept and store all excess Pu-239 sources by the end of FY02. When final approvals are obtained, the OSR Project will begin expeditious recovery of the remaining Pu-239 source backlog.

The ultimate goal of the project is to eliminate all significant risk to public health and safety posed by unwanted radioactive sealed sources for which DOE is responsible. The objective of the project is to bring the DOE into full compliance with its sealed source responsibilities under Public Law 99-240 by 2006.

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